

*Hawley's*  
*Condensed Chemical*  
*Dictionary*

*THIRTEENTH EDITION*

*Revised by*  
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VAN NOSTRAND REINHOLD

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Butylated melamine resins are formed by incorporating butyl or other alcohols during resin formation, whereupon the  $\text{—NHCH}_2\text{OH}$  groups convert to  $\text{—NHCH}_2\text{OC}_4\text{H}_9$ . These resins are soluble in paint and enamel solvents and in surface coatings, often in combination with alkyds. They give exceptional curing speed, hardness, wear resistance, and resistance to solvents, soaps, and foods.

Melamine-acrylic resins are water soluble and used for formation of water-base industrial and automotive finishes.

See urea-formaldehyde resin.

**melaniline.** See diphenylguanidine.

**melanin.** A brownish-black pigment that occurs normally in the retina, skin, and hair of higher animals with the exception of albinos. Formed from tyrosine by the action of tyrosinase.

**melissic acid.** (triacontanoic acid).

$\text{CH}_3(\text{CH}_2)_{28}\text{COOH}$ . A long-chain fatty acid.

**Properties:** Crystalline solid. Mp 94°C. Soluble in benzene and hot alcohol; insoluble in water. Combustible.

**Derivation:** By oxidation of 1-triacontanol, occurs in minor amounts in many plant and insect waxes and in montan wax.

**Use:** Biochemical research.

**melissyl alcohol.** See 1-triacontanol.

**melittin.**

CAS: 37231-28-0.  $\text{C}_{131}\text{H}_{229}\text{N}_{39}\text{O}_{31}$ . A polypeptide derived from bee venom that has strong antibacterial activity, especially against *Staphylococcus aureus* 80 which is resistant to penicillin. It inhibits growth of many Gram-positive and Gram-negative bacteria.

**Properties:** White powder. Water soluble.

**Use:** Antirheumatic drug.

**mellitate.** An ester or salt of mellitic acid.

**"Melmec" [Cytec].** TM for products molded from melamine-formaldehyde resins.

**"Melonite" [Kolene].** TM for an anhydrous molten salt bath used to nitride ferrous work pieces. The bath operates at a subcritical temperature and produces a continuous  $\epsilon$ -iron nitride layer on carbon steels, and alloy nitride surfaces on alloy steels.

**Use:** For many components to enhance fatigue strength, wear and corrosion resistance. It is also used for tooling and dies to extend service life.

**melpalhan.**

(*p*-di(2-chloroethyl)aminophenylalanine; formerly called sarcosylsin).

CAS: 148-82-3.

$(\text{ClCH}_2\text{CH}_2)_2\text{NC}_6\text{H}_4\text{CH}_2\text{CH}(\text{NH}_2)\text{COOH}$ .

Melpalhan is both the USAN name for the acid and the generic name for the hydrochloride.

**Properties:** A nitrogen mustard. Crystals. Mp 180°C.

**Grade:** ND (in medicine, for the acid).

**Hazard:** Strong irritant to eyes and mucous membranes.

**Use:** Medicine, insect chemosterilant.

**melt index.** The viscosity of a thermoplastic polymer at a specified temperature and pressure, it is a function of the molecular weight. Specifically, the number of grams of such a polymer that can be forced through a 0.0825-inch orifice in 10 minutes at 190°C by a pressure of 2160 g.

**melting point.** (mp) The melting point or freezing point of a pure substance is the temperature at which its crystals are in equilibrium with the liquid phase at atmospheric pressure. The term *melting point* is used when the equilibrium temperature is approached by heating the solid. Ordinarily, mp refers to temperatures above 0°C, the melting point of ice. The terms *melting point* and *freezing point* are often used interchangeably, depending on whether the substance is being heated or cooled. The number of calories required to convert one mole of pure crystals to the liquid state is called the molar heat of fusion.

**"Melurac" [Cytec].** TM for urea-melamine-formaldehyde condensation products used mainly as adhesives for bonding of veneers for the production of exterior-grade plywood.

**membrane cell.** See diaphragm cell.

**membrane equilibrium.** Equilibrium between the ions of a salt solution and the giant and normal ions of a colloidal electrolyte separated by a membrane.

**membrane hydrolysis.** Hydrolysis that occurs when a colloidal electrolyte, consisting of giant ions and normal ions, is separated from pure water by a membrane. The diffusing ions are substituted by the  $\text{OH}^-$  or  $\text{H}^+$  ions of the dissociating water.

**membrane, semipermeable.** A microporous structure, either natural or synthetic, that acts as a highly efficient filter in the range of molecular dimensions, allowing passage of ions, water, and other solvents and very small molecules, but is almost impermeable to macromolecules (proteins) and colloidal particles. The thickness is about 100 Å, the pore diameter is from 8 Å for the walls of tissue cells to 100 Å or more for manufactured membranes. Plant cell wall membranes are proteinaceous substances that function in natural osmosis. Membranes of cellophane, collodion, asbestos fiber, etc., are used in such industrial operations as